High Heliographic latitude Tangential Discontinuities: Ulysses Observations

C. M. Ho, B. T. Tsurutani, J. K. Arballo, E. J, Smith, B. E. Goldstein and M, Neugebauer (All at: Jet Propulsion Laboratory, California Institute of Technology, Pasadena,CA91109)
A. Balogh and D, J. Southwood (Both at imperial College of Science and Technology, The Blackett Laboratory, Prince Consort Road, London SW72 BZ, England)
W. C.Feldman (Los Alamos National Laboratory, Los Alamos, New Mexico 87545)

Previous studies of Tangential Discontinuities (TDs) are all based on data taken in the ecliptic plane or at low helio-latitudes. Preliminary data from Ulysses show that a significant number of TDs exist at high latitudes, These TDs may generally be divided into two categories based on their field directional changes across the discontinuities. There is a distinct population of TDs with large magnitude changes ($\Delta|B|/B > 0.2$) but small directional changes (< 300). About 20% of all the high-latitude TDs arc in this category. Wc will use the instability criteria to further determine whether these mirror mode-like events are "fossils" which have been generated close to the sun and are convected to the spacecraft or are still being created. For the other 80% of TDs, which arc associated with large directional changes, we will find their orientation and intensity through a field model. Speculation on the role that they play at high latitudes will be made. Finally, generation mechanisms for these TD structures will be explored.

1. **1995** IUGG Meeting

2. 010102343

3. (a) C. M. Ho

JPL/NASA
MS 168-327
4800 Oak Grove Dr.
Pasadena, CA 91109-8099

(b) Tel: 1-818-354-7894
(c) Fax: 1-818-354-8895
(d) E-Mail:
cho@jplsp.jpl.nasa.gov

4. IAGA

5. GA 4.01 E. J. Smith

6.

7.

8. No